CLAIMS

What is claimed is:

Sub A1

1. An enriched alpha-acid hop extract product having:

a total alpha-acids concentration greater than 60% by weight;

a total beta-acids concentration of less than 20% by weight; and

a total hop essential oils concentration in excess of 1% by weight.

2. The enriched alpha-acid hop extract product of claim 1, wherein the total alpha-acids concentration is approximately 70% by weight.

3. A process for producing an enriched alpha-acid hop extract product comprising the steps of:

a) extracting a raw hop to produce a whole hop extract, the whole hop extract including alpha-acids, beta acids, hop essential oils, hard resins and waxes;

b) refining a portion of the whole hop extract to form a purified alpha acids product; and

c) supplementing the whole hop extract with the purified alpha-acids product to form an enriched alpha-acid hop extract product having a total alpha-acids concentration greater than 60% by weight, a total beta-acids concentration less than 20% by weight, and a total hop essential oils concentration in excess of 1% by weight.

4. The process for producing an enriched alpha-acid hop extract product of claim 3, wherein the step of supplementing the whole hop extract with the purified alpha-acids product to form an enriched alpha-acids hop extract product additionally includes supplementing the whole hop extract with the purified alpha-acids product to form an enriched alpha-acids hop extract product having a total alpha-acids concentration of approximately 70% by weight.

5. The process for producing an enriched alpha-acid hop extract product of claims 3, wherein the step of refining a portion of the whole hop extract to form a purified alpha-acids product includes:

b1) fractionating the whole hop extract in a first fractionation, the first fractionation including the addition of a first alkali hydroxide and water solution to the whole hop extract to form a first aqueous phase and a first organic phase;

b2) fractionating the first organic phase in a second fractionation, the second fractionation including the addition of a second alkali hydroxide and water solution to the first organic phase to form a second aqueous phase and a second organic phase; and

b3) utilizing the second organic phase as a beta-acids rich fraction.

6. The process for producing an enriched alpha-acid hop extract product of claim 3, wherein the step of refining a portion of the whole hop extract to form a purified alpha acids product additionally includes:

b4) acidifying the purified alpha-acids to substantially neutralize the first alkali hydroxide and water solution and the second alkali hydroxide and water solution; and

b5) concentrating the purified alpha-acids.

7. The process for producing an enriched alpha-acid hop extract product of claims 3, additionally including the steps of:

d) refining a portion of the whole hop extract to form a beta-acids rich fraction comprising beta-acids, hop essential oils, hard resins and waxes; and

e) recombining the beta-acids rich fraction and oil with the purified alpha-acids product to form an enriched alpha-acids hop extract product additionally having a total beta-acids concentration less than 20% by weight.

8. A process for producing an enriched alpha-acid hop extract product comprising the steps of:

a) extracting a raw hop to produce a whole hop extract, the whole hop extract including alpha-acids, beta acids and hop essential oils, hard resins and waxes;

b) refining a portion of the whole hop extract to form a purified alpha acids product; and

c) refining a portion of the whole hop extract to form a beta-acids rich

fraction comprising beta-acids, hop essential oils, hard resins and waxes; and

d) recombining the beta-acids rich fraction with the purified alpha-acids product to form an enriched alpha-acids hop extract product having a total alpha-acids concentration greater than 60% by weight, a total beta-acids concentration less than 20% by weight, and a total hop essential oils concentration in excess of 1% by weight.

9. The process for producing an enriched alpha-acid hop extract product of claim 8, wherein the step of recombining the beta-acids rich fraction with the purified alpha-acids product to form an enriched alpha-acids hop extract product additionally yields an enriched alpha-acids hop extract product having a total alpha-acids concentration of approximately 70% by weight.

10. The process for producing an enriched alpha-acid hop extract product of claim 8, wherein the step of refining a portion of the whole hop extract to form a purified alpha acids product includes:

b1) fractionating the whole hop extract in a first fractionation, the first fractionation including the addition of a first alkali hydroxide and water solution to the whole hop extract to form a first aqueous phase and a first organic phase;

b2) fractionating the first organic phase in a second fractionation, the second fractionation including the addition of a second alkali hydroxide

and water solution to the first organic phase to form a second aqueous phase and a second organic phase; and

b3) combining the first aqueous phase and the second aqueous phase to form a purified alpha-acids.

11. The process for producing an enriched alpha-acid hop extract product of claim 8, wherein the step of refining a portion of the whole hop extract to form a purified alpha acids product additionally includes:

b4) acidifying the purified alpha-acids to substantially neutralize the first alkali hydroxide and water solution and the second alkali hydroxide and water solution; and

b5) concentrating the purified alpha-acids.

add A2